Remarks

This Amendment is being filed concurrently with a Request for Continued Examination ("RCE"). Reconsideration and allowance of this application, as amended, are respectfully requested.

Applicants acknowledge with gratitude the telephonic interview conducted with the examiner and the supervisory examiner on December 29, 2009. During the interview Applicants summarized the instant invention and urged the patentability thereof over U.S. Patent No. 5,974,968 to Achelpohl et al ("Achelpohl"). In explaining the differences between Achelpohl's pressure medium-piston-cylinder unit and Applicants' claimed mandrel-locking unit, Applicants referred to, *inter alia*, Achelpohl's Figure 2 and Applicants' Figures 1 and 2. Applicants also referred to an annotated version of Achelpohl's Figure 2 that serves to highlight the structural distinctions between Achelpohl's unit and Applicants' claimed invention.

In the present Amendment, claims 1, 11, 16, and 17 have been amended to even more particularly define the invention. Claims 1-17 remain pending in the application. Claims 1, 8, 11, 16, and 17 are independent. A copy of the annotated version of Achelpohl's Figure 2 is attached hereto for the examiner's reference. The rejections are respectfully submitted to be obviated in view of the amendments and remarks presented herein.

No new matter has been introduced through the foregoing amendments. Entry of each of the amendments is respectfully requested.

35 U.S.C. § 102(b) – Achelpohl

Claims 1-4, 7-14, and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Achelpohl.

The rejection of claims 1-4, 7-14, and 16 under § 102(b) based on Achelpohl is respectfully traversed. For at least the reasons explained in the personal interview of March 3, 2009, the reasons presented in Applicants' Amendment filed March 6, 2009, and the following reasons, the disclosure of Achelpohl does not anticipate Applicants' claimed invention.

An object of the instant invention is to provide "a mandrel-locking unit that has a more compact design and a lower overall depth" (specification page 2/6, fourth paragraph). One feature of Applicants' claimed invention that contributes to attaining the aforementioned object is that "a distance between the boundary surface and the connecting point [is] smaller than a maximum stroke of the piston in the pressurizing medium cylinder" (claim 1).

Achelpohl simply does not teach each feature of Applicants' claimed invention. More specifically, Achelpohl fails to teach, *inter alia*, a configuration having the above-quoted distance feature. See Achelpohl's Figure 2. In paraphrasing Applicants' claim 1, the Office Action states that Achelpohl discloses a

> piston (which is made up of a part, including the piston rod that extends into the pressure chamber 30 and a surface in the chamber, **as well as the back surface of the mandrel-mounting element which is considered to be the boundary surface**) delimiting the pressure chamber (number 30) at **a boundary surface (the back surface of the mandrel-mounting element which is considered to be the boundary surface**, see figure 2) and being connected to the mandrel-mounting element (number 27) at a connecting point (approximately represented by the division between the non-shaded and shaded areas of number 27) . . . a distance between the boundary surface and the connecting point being smaller than a maximum stroke of the piston in the pressurizing medium cylinder. (Office Action page 3)

However, Applicants respectfully submit that the Office Action is in error in stating that Applicants' claimed boundary surface feature would, in Achelpohl, be "the back surface of the mandrel-mounting element" 27. That is not where an element that is equivalent to Applicants' boundary surface would be located in Achelpohl's device. See Applicants' Figure 1 as amended in the Amendment filed July 11, 2008. The drawing figures were amended as required by the examiner with respect to the claimed boundary surface 15 and connecting point 16 features. See Applicants' amended Figure 1, which clearly shows that **the boundary surface 15 is the surface of piston 4 that is *on the pressure chamber 3 side of piston 4***.

Therefore, contrary to the Office Action, in Achelpohl's device, Applicants' claimed boundary surface feature would ***not*** be "the back surface of the mandrel-mounting element" 27. Instead, in Achelpohl's device, an element that is equivalent to Applicants'

boundary surface would be on the far left-hand side of the drawing i.e., on the pressure chamber side of the piston shown in the left-hand portion of Achelpohl's "pressure medium-piston-cylinder unit 30."

Now, see the attached annotated version of Achelpohl's Figure 2. On the left-hand side of Figure 2, Applicants have annotated the drawing to depict both distance "ms," i.e., the maximum stroke of the piston, and distance "dbc," i.e., the distance between the boundary surface and the connecting point. Clearly, once one recognizes that if Achelpohl were to have a boundary surface as defined in the instant application it would be on the left-hand side of the piston shown in the left-hand portion of Achelpohl's pressure medium-piston-cylinder unit 30, it becomes abundantly clear that according to Achelpohl, the distance "dbc" between the boundary surface and the connecting point is ***larger*** than a maximum stroke of the piston in the pressurizing medium cylinder.

That, however, is not Applicants' claimed invention. As pointed out above, an object of the instant invention is to provide a mandrel-locking unit that has ***a more compact design and a lower overall depth***. Achelpohl's conventional device, in which the distance between the boundary surface and the connecting point is ***larger*** than the maximum stroke of the piston, most certainly would not meet this object. However, with Applicants' claimed

configuration, in which "a distance between the boundary surface and the connecting point [is] ***smaller*** than a maximum stroke of the piston in the pressurizing medium cylinder," the object *is* achieved.

There is, therefore, no disclosure by Achelpohl of Applicants' claimed boundary surface - to - connecting point distance feature.

Since Achelpohl does not meet each feature of the claimed invention, Achelpohl does not anticipate the invention defined by Applicants' claim 1. Claims 2-4 and 7 are allowable because they depend from claim 1, and for the subject matter recited therein.

Independent claim 8 is similarly allowable. Previously presented claim 8 recites in pertinent part a "piston (i) having a boundary surface that delimits an end of the pressure chamber and (ii) being connected to the mandrel-mounting element at a connecting point for a transfer of force required to slide the mandrel-mounting element, and *a distance between the boundary surface and the connecting point being less than a distance of a maximum piston stroke in the pressurizing medium cylinder.*" Claims 9 and 10 are allowable because they depend from claim 8, and for the subject matter recited therein.

Independent claim 11 is also allowable. Claim 11 recites in pertinent part that "a distance between the boundary surface and the connecting point [is] smaller than a maximum stroke of the

piston in the pressurizing medium cylinder." Claim 11 defines an embodiment of the invention in which the pressure chamber and the guide area are separated from each other by the mandrel-mounting element and a sealing ring. The sealing ring 10 is fixed in the pressurizing medium cylinder 2. In Applicants' invention, the mandrel-mounting element 9 assumes the function of a piston rod that would be present in a conventional pressurizing medium cylinder. That is why in this embodiment of the instant invention the pressurizing medium cylinder 2 is provided with the sealing ring 10. Claims 12-14 are allowable because they depend, either directly or indirectly, from claim 11, and for the subject matter recited therein.

Finally, independent claim 16 is also allowable. Claim 16 defines an embodiment of the invention having "a pressurizing medium cylinder including a pressure chamber with a piston located therein for sliding the mandrel-mounting element between the mounting position and the release position, *an inner diameter of the pressurizing medium cylinder being larger than an outer diameter of the mandrel-mounting element*, the piston delimiting the pressure chamber at a boundary surface and being connected to the mandrel-mounting element for a transfer of force required for sliding the mandrel-mounting element, *a surface of the piston opposite the boundary surface being directly connected to an end surface of the mandrel-mounting element.*" Achelpohl's device

simply does not meet the above-quoted features of Applicants' invention.

35 U.S.C. § 103(a)

Claims 5 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Achelpohl in view of U.S. Patent No. 5,562,358 to Okamoto et al. ("Okamoto"). Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Achelpohl in view of Okamoto and further in view of U.S. Patent No. 6,473,954 to Rosberg et al. ("Rosberg"). Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Achelpohl in view of U.S. Patent No. 4,083,205 to Clarke et al. ("Clarke").

The rejections of claims 5 and 17, claim 6, and claim 15 under § 103(a) based on combinations of references with Achelpohl as the primary reference are also respectfully traversed. Claims 5 and 6 each depend from claim 1. Claim 1 is allowable over Achelpohl for at least the reasons outlined above in response to the rejection under § 102(b). Claims 5 and 6 are allowable because they depend from claim 1, and for the subject matter recited therein. Furthermore, there is simply no teaching in Okamoto or Rosberg that rectifies any of the above-described deficiencies of Achelpohl.

Claim 17 defines an embodiment of the invention that has a "disk-shaped" piston. And, claim 17 recites that "a surface of the piston opposite the boundary surface [is] directly connected to an end surface of the mandrel-mounting element, the transfer of

force being provided by a compressed fluid that acts on the connected piston and mandrel-mounting element." See Applicants' Figures 1 and 2. Neither of these features are disclosed in the cited prior art.

Claim 15 is also allowable. Claim 15 depends from claim 11. Claim 11 is allowable over Achelpohl for at least the reasons outlined above in response to the rejection under § 102(b). As indicated above, claim 11 recites in pertinent part that "a distance between the boundary surface and the connecting point [is] smaller than a maximum stroke of the piston in the pressurizing medium cylinder." And, claim 11 defines an embodiment of the invention in which the pressure chamber and the guide area are separated from each other by the mandrel-mounting element and a sealing ring. Claim 15 is allowable because it depends from claim 11, and for the subject matter recited therein. Furthermore, regardless of what Clarke may disclose with regard to a sealing ring, there is simply no teaching in Clarke that rectifies any of the deficiencies of Achelpohl.

Accordingly, the combined disclosures of Achelpohl and Okamoto, or of Achelpohl, Okamoto, and Rosberg, or of Achelpohl and Clarke, would not have rendered obvious the invention defined by any of, respectively, Applicants' claims 5 and 17, claim 6, and claim 15.

In view of the foregoing, this application is now in condition for allowance. If the examiner believes that another

interview might expedite prosecution, the examiner is invited to contact the undersigned.

Respectfully submitted,

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